

## CLAIMS

- Sub A1
1. A method for a mobile station for performing a handover from a first network connection to a second network connection in a mobile telecommunication system providing for non-real time telecommunication connections over a radio interface between mobile stations and the fixed parts of the mobile telecommunication system, comprising the steps of
    - suspending at least one active non-real time telecommunication connection between a mobile station and the fixed parts of the mobile telecommunication system,
    - performing a handover from the first network connection to the second network connection and
    - resuming the suspended non-real time telecommunication connection.
  2. A method according to claim 1, wherein the first network connection is a connection from the mobile station via a first radio network controller to a first serving node of a packet-switched data transmission network and the second network connection is a connection from the mobile station via a second radio network controller to said first serving node, whereby the step of performing a handover comprises the substeps of
    - exhausting through the first network connection all transmission buffers that, at the time of suspending said at least one active non-real time telecommunication connection, contain data to be transmitted over the first network connection and
    - establishing the logical connections between the mobile station and said first serving node via said second radio network controller that constitute the second network connection.
  3. A method according to claim 2, wherein
    - the first network connection is a macrodiversity connection comprising a direct connection between the mobile station and said first radio network controller and an indirect connection between the mobile station and said first radio network controller via said second radio network controller and
    - the second network connection is a macrodiversity connection comprising a direct connection between the mobile station and said second radio network controller and an indirect connection between the mobile station and said second radio network controller via said first radio network controller,
 whereby the step of performing a handover comprises additionally the substep of changing the macrodiversity control from the first radio network controller to the second radio network controller.

4. A method according to claim 1, wherein the first network connection is a connection from the mobile station via a first radio network controller to a first serving node of a packet-switched data transmission network and the second network connection is a connection from the mobile station via a second radio network controller to a second serving node of said packet-switched data transmission network, whereby the step of performing a handover comprises the substeps of
- exhausting through the first network connection all transmission buffers that, at the time of suspending said at least one active non-real time telecommunication connection, contain data to be transmitted over the first network connection and
  - establishing the logical connections between the mobile station and said second serving node via said second radio network controller that constitute the second network connection.
5. A method according to claim 1, wherein the non-real time telecommunication connections are arranged according to a certain structure of protocol stacks in a mobile station, a radio access network, a serving support node of a packet-switched data transfer network and a gateway support node of a packet-switched data transfer network, and the method comprises the steps of
- communicating between a number of first peer entities between the mobile station and the radio access network, wherein said first peer entities are composed of a physical layer, a Media Access Control layer and a Radio Link Control layer,
  - communicating between a number of second peer entities between the radio access network and the serving support node of a packet-switched data transfer network, wherein said second peer entities are composed of a physical layer, a Network Service layer and a protocol layer for communication between the radio access network and the packet-switched data transfer network, and
  - communicating between a number of third peer entities between the mobile station and the serving support node of a packet-switched data transfer network, wherein said third peer entities are composed of a Subnetwork Dependent Control Protocol Layer which in the mobile station is immediately on top of the Radio Link Control layer and in the serving support node of a packet-switched data transfer network is immediately on top of the protocol layer for communication between the radio access network and the packet-switched data transfer network.
6. A method according to claim 5, additionally comprising the steps of performing error detection and error-related retransmission as well as flow control

between the mobile station and the radio access network on said Radio Link Control layer.

7. A method according to claim 1, wherein the first network connection and the second network connection are packet-switched connections for transmitting error-critical data.

8. A method according to claim 1, wherein the first network connection and the second network connection are non-transparent circuit-switched connections.

9. A mobile station for communicating with the fixed parts of a mobile telecommunication system over network connections, comprising means for executing the method according to claim 1 in order to perform a handover from a first network connection to a second network connection.

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